

**FLYWHEEL TESTING** — Bill Sutton, Y-12 Development Division, loads a flywheel onto the turbine-drive spindle in the Flywheel Evaluation Laboratory. The spindle is capable of rotating at speeds up to 60,000 revolutions per minute.

## Fast-flying flywheels being tested in Y-12

Flywheels designed for potential use in high efficiency vehicles of the future are being tested in a new facility at the Oak Ridge Y-12 Plant.

The new facility, known as the Oak Ridge Flywheel Evaluation Laboratory (ORFEL), was established to evaluate flywheels made of fiber composite materials by determining their abilities to withstand extremely high rotational speeds. The work is being conducted for the Mechanical Energy Storage Technology Project at Lawrence Livermore National Laboratory, Livermore, Calif.

The principle of the flywheel is that a rotating wheel stores kinetic energy that can be added to or taken from when needed, just as water is stored in and recovered from a reservoir. In the past, the flywheel method of energy storage has not been fully utilized because of the limited physical properties of metals and the containment problems they present. The present availability of high strength-to-weight ratio fiber composite materials now makes it possible to construct flywheels with higher potential for energy storage with less severe containment restrictions.

Robert S. Steele, director of the ORFEL test program, said that flywheels designed and produced by several American firms have been tested in the new facility to evaluate

their ultimate speed characteristics. Prototypes tested thus far at the ORFEL have been discs and cylinders from 12" to 24" in diameter, from 2" to 8" thick, and have weighed from 15 to 125 pounds. Steele said that, theoretically, such flywheels could store an energy equivalent to about 80 watt hours per kilogram when rotated at a perimeter speed of more than 23,000 miles per hour. Such a flywheel could easily double the current gas mileage of an automobile in stop-and-go traffic, he said.

In a typical test in the ORFEL, a flywheel is loaded onto a turbine-driven shaft capable of attaining 60,000 revolutions per minute. The assembly then is lowered into an armored pit. The flywheel is rotated to increasingly higher speeds over a period of time until failure occurs. Its performance during the test is monitored by a variety of instruments, in addition to a closed-circuit television camera.

The Y-12 Plant was requested by DOE to design, build and operate the testing facility because no such capability exists elsewhere in which super-strong fiber composite wheels can be spun to the speeds needed to produce failures in a safe and carefully controlled manner, permitting engineers to determine the mode of failure.

## Corporate world ...

WHEN THE FIRST SPACE SHUTTLE, Columbia, lifted off from the Kennedy Space Center last month, Union Carbide Corporation was very much involved. Our Linde and Carbon Products Divisions contributed heavily to the success of the historic mission.

The Linde Division provided 670 tons of liquid oxygen which powered the craft into liftoff and then into orbit. The amount of Linde oxygen consumed the equivalent of 34 truckloads along in the launch alone. All told, Linde shipped over 4,000 tons of liquid oxygen for the shuttle project from its Mims, Fla., plant to the launch site.

The Carbon Products Division's Thornel 300 graphite yarn was used in the construction of Columbia's cargo bay doors. The use of graphite

composites helped reduce the orbiter's weight without sacrificing the material strength needed to withstand the rigors of liftoff and spaceflight.

Union Carbide Industrial Services Company (UCISCO) also assisted the Columbia when it landed by purging any remaining volatile substances from the spacecraft. Linde also provided liquid nitrogen used by UCISCO.

THE BOARD OF DIRECTORS of Union Carbide has declared the company's 256th dividend. The amount is 80¢ a share on outstanding capital stock of the corporation, payable June 1, to stockholders of record on May 1, 1981.

This is the same dividend that was paid March 2.

## Donald Petty is 5000th TAT graduate

Donald Edward Petty of Guys, Tenn., was to be recognized as the 5000th graduate of the Training and Technology (TAT) Program during special ceremonies at the Y-12 facility May 7.

Petty, who enrolled in TAT last November, is completing the machining program.

TAT is an industrial-based skill training program operated jointly by

the Nuclear Division and Oak Ridge Associated Universities with support from DOE. The purpose of the 15-year-old program is to train disadvantaged people to enter the fields of machining, combination welding, pipefitting, physical testing and industrial drafting.

For additional coverage of the special TAT ceremonies, see the May 21 issue of **Nuclear Division News**.

## In this issue...

**C. Lynn Beam, ORNL Information Division, is one of 14 Nuclear Division deaf employees. May 10-16 has been designated Deaf Awareness Week. Story on page 4.**



### Other features:

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**News about people** page 8



# 'No sidewalks, mud everywhere'

"The thing that I remember most is the mud. It was everywhere, and there was so much of it that it would jerk your galoshes off."

Cecil E. Moyers, recent Engineering Division retiree at ORNL, has many memories of the early days of the Laboratory. In fact, he believes he has the longest continuous service record for original employees at the Oak Ridge facilities. (His employee number is 1023.)

Thirty-eight years ago, the Knoxville native began a construction job with Dupont on March 23, 1943, less than two months after the Manhattan Project startup date of February 1. In December of that year, he transferred to the engineering division of the Laboratory's operating contractor, then the University of Chicago. He later was employed by Monsanto, and eventually, of course, by Union Carbide.

Moyers said he remembers being disappointed when he began his job in Oak Ridge. "There were no sidewalks, and mud was everywhere. I was expecting something a little more civilized," he recalled. "At first I worked in the old Scarboro School, until they could find space for me elsewhere."

He originally was in charge of keeping track of many classified drawings and was involved in producing the detailed shop drawings for the Graphite Reactor moderator. Moyers worked as a draftsman for several years, before being promoted to design engineer in 1948. He was a member of the architectural and structural department in the Engineering Division.

Moyers said he was unaware of the mission of the Laboratory and the



**Cecil E. Moyers**

other plants until the first atomic bomb was dropped on Hiroshima in 1945. "My family and I were vacationing in the mountains at the time. My wife had been to a grocery store, where she heard the news. When she told me, I realized what our contributions had been to the project, but I didn't suspect before that time," he added.

Moyers, who said he was involved with "a little bit of everything," during his 38 years at the Laboratory, described the "permanent nature of the place" as the biggest change he had observed. "Almost all of the 'temporary' buildings from the old days have disappeared," he explained.

He said he plans to stay busy during retirement, naming golf, fishing and swimming as favorite hobbies. Travel is also high on his agenda, since he and his wife, Margaret, plan to visit their daughter and her family in Jordan. The Moyers also have two other children.

When asked what he would miss most about ORNL, Moyers replied, "Definitely the people with whom I've been associated. They've been great, and it's been a privilege to work with them."

## Anniversaries

### ORNL

35 YEARS

Eda Bryant, Plant and Equipment; Wanda Ellis, Information; Paul R. Kuehn, Solid State; James R. Thomas, Operations; George M. Adamson, Metals and Ceramics; and Grover C. Cain, Central Management.

30 YEARS

Jere W. Geer, Metals and Ceramics; Fred C. Maienschein, Engineering Physics; James G. Morgan, Chemical Technology; Francis J. Muckenthaler, Engineering Physics; Dorothy K. Burkhalter, Finance and Materials; Harold J. Pemberton, Plant and Equipment; and Louis A. Lee, Plant and Equipment.

25 YEARS

J. R. McIntosh, Willie A. Baker, Robin O. Williams, Robert E. Canning, John L. Anderson, Bobby W. Stout, Ebb Moore, Roger A. Jones and Bonnie S. Reesor.

### PADUCAH

35 YEARS

William C. Taylor, Plant Engineering.

### Y-12 PLANT

35 YEARS

James A. McLain, Utilities Administration; Henry C. East, Materials Testing Support; Norman E. Morgan, Research Services; Hugh Barnett, Building Services; Herman G. P. Snyder, Superintendents Division; and Harry G. King Jr., Plant Laboratory.

30 YEARS

James R. Donahue, Casting; Robert L. Ludwig, Development Division; Theira J. Flood, Technical Services; James E. Thompson Jr., Metal Preparation; Della L. Welton, Research Services; Auburn D. Casey, Electrical and Electronics; Keith Eastridge, Research Services; Charles M. Knowles, Materials Testing Support; Hardin S. Lane, Materials Forming; Joe K. Raper, SS Warehousing and Shipping; John L. Young Sr., H-1 Foundry; Kenneth E. Smith, Engineering; and Delia J. Fraley, Employee Relations.

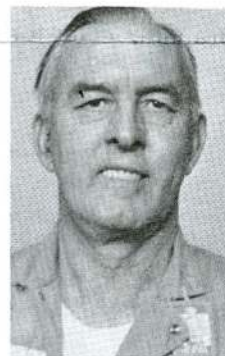
25 YEARS

Tony R. Chilcoat, Walter L. Cox, Leonard A. Abbatiello, Ronald G. Thompson and Judson T. Kidwell.

## Nuclear Division Deaths



**Mr. Cooper**



**Mr. Kilby**



**Mr. Hamric**

Burnard E. Cooper, Engineering Division at Y-12, died April 17 at his 3400 Ironwood Road, Knoxville, home. A native of Knoxville, he was a member of the Tennessee Society of Professional Engineers. He graduated from the University of Tennessee after serving four years in the U.S. Air Force.

Survivors include his wife, Nora Cooper; sons, Lance, Marc and Mike; and a daughter Pam Cooper; and one grandson.

Graveside services were held at Highland Memorial Cemetery.

J. T. Kilby, a brickmason in the Maintenance Division at ORGDP, died April 18 at a Knoxville hospital.

Mr. Kilby joined the Nuclear Division in August, 1945. He was a member of Hensley's Chapel Church where he was Sunday School Superintendent. He also served on the Board of Director of Zion's Children's Home.

Mr. Kilby is survived by his wife, Audrey Pruitt Kilby, of Gail Avenue in

Lenoir City; a son, Randy Kilby; and a daughter, Lora Kilby, both of Lenoir City.

Services were held April 21 at Hensley's Chapel, with Elders Tommy Shillings and Otis Anderson officiating. Burial followed at Lakeside Cemetery.

Samuel U. Hamric, an instrument technician in the ORNL Instrumentation and Controls Division, died April 14 at Oak Ridge Hospital.

Mr. Hamric, a 34-year ORNL employee, lived at 134 Northwestern Avenue, Oak Ridge. He was a member of Kern Memorial United Methodist Church.

Survivors include his wife, Joyce Kelly Hamric; son, Kelly, Germantown; and daughter, Judy H. Wyatt, Lebanon.

Funeral services were conducted at Weatherford Mortuary, Oak Ridge, with burial in Oak Ridge Memorial Park. Memorial contributions may be made to Kern Memorial United Methodist Church.

UNION  
CARBIDE

## Nuclear Division News

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Post Office Box Y  
Oak Ridge, Tenn. 37830

### EDITOR

James A. Young, 574-1643

### ASSOCIATE EDITOR

Cindy Ross Lundy, 574-4163

### ORGDP

Ruby A. Miller, 574-8093

### PADUCAH

Darlene M. Mazzone, Bell 208

Published every other week  
for employees such as:



Sylvia A. Rupert, who is a technical reports assistant in the Operating Contractor's Project Office at ORGDP.



INTERNATIONAL ASSOCIATION  
OF BUSINESS COMMUNICATORS



# EBT-P fusion device facility dedicated in industrial park

Dedication ceremonies were held April 27 in the Oak Ridge Valley Industrial Park for an 11-acre site that will be the future location of the Elmo Bumpy Torus Proof-of-Principle (EBT-P) fusion device, based on the EBT design developed in ORNL's Fusion Energy Division.

McDonnell Douglas Astronautics Company of St. Louis, subcontractor to ORNL for development, design, construction and operation of EBT-P, will begin construction work on the \$96 million project early next year.

Attending last week's ceremonies were Rep. Marilyn Lloyd Bouquard of Tennessee, chairman of the House subcommittee on Energy Research and Production, and subcommittee members Rep. Robert Young and Rep. Harold Volkmer, both of Missouri.

## Other participants

Other participants, in addition to representatives of the Nuclear Division and DOE's Oak Ridge Operations, included Edwin E. Kintner, associate director for fusion energy in DOE's Office of Energy Research, and the Japanese delegation to the U.S.-Japan Coordinating Committee on Fusion Energy. Erwin F. Branahl, vice president and general manager of McDonnell Douglas Astronautics Company, headed a delegation of eight McDonnell Douglas representatives.

Ceremonies began with a luncheon at the Holiday Inn in Oak Ridge, after which participants moved to the EBT-P site for the actual

dedication ceremonies. The day concluded with a tour of ORNL's Fusion Energy Division facilities.

On the Industrial Park site, directly to the east of the Y-12 Plant where ORNL's fusion facilities are located, McDonnell Douglas will construct three main buildings totalling 50,000 square feet: a test center to house the EBT-P, an administration building and a mechanical equipment building. The EBT-P device itself will be about 30 feet in diameter, or about three times the size of the present device at ORNL.

## Component manufacture

In coordination with its subcontractors on the project, McDonnell Douglas will manufacture the various components for the experiment in St. Louis and will ship them to Oak Ridge for assembly.

DOE has assigned overall management responsibility for the EBT-P project — as well as technical coordination of the national EBT program — to ORNL, which subcontracted preliminary EBT-P design studies to four U.S. firms last year. McDonnell Douglas was selected from the four last fall as the principal subcontractor for the project.

DOE selected the EBT concept in December 1978 as a leading alternative design for future fusion power reactors, to be tested in a "proof-of-principle" experiment to determine its potential as a power-generating device in comparison with tokamaks and mirrors, the other leading designs.



REP. MARILYN LLOYD BOUQUARD, chairman of the House subcommittee on Energy Research and Production, gives the dedication address at the EBT-P site in the Oak Ridge Valley Industrial Park. Seated behind Rep. Bouquard are, from left, Don Maxwell, Oak Ridge Chamber of Commerce; Murray Rosenthal, ORNL associate director for Advanced Energy Systems; ORNL Director Herman Postma; Rep. Robert Young; Rep. Harold Volkmer; Erwin Branahl and Edwin Kintner.

## Question Box

### What if supervisor threatens layoff to pregnant employee?

QUESTION: Does a salaried employee have access to the job description for his current position?

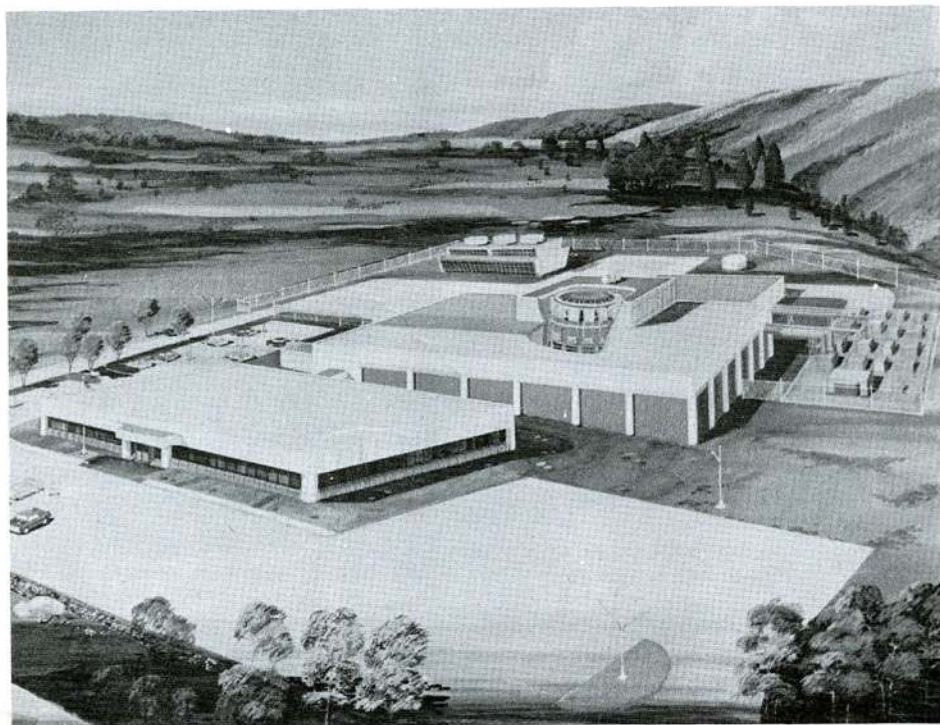
ANSWER: Many managers and professional employees have prepared position charters and measures of performance describing their work and expected results. Many other exempt salaried employees have measures of performance which the supervisor and employee have agreed set forth expected results from the job. While there is not a job description covering each salaried job, generic job descriptions for all salaried job titles either exist or are being prepared. These are broad job descriptions that cover an entire range of duties which are to be performed by a given job classification and therefore may differ somewhat from the specific duties performed by a given individual.

These generic descriptions will be

available either in your division office or at your installation Salary Administration Office. All requests to review the generic description of your particular position should go through your supervisor.

QUESTION: What can be done if a supervisor tells an employee she will be laid off if she becomes pregnant?

ANSWER: Title VII of the Civil Rights Act of 1964 was amended in 1978 to prohibit discrimination in employment based on pregnancy, childbirth or related medical conditions. If a supervisor made the kind of statement you refer to, it would have been clearly wrong and would not be in accordance with Company policy. If your supervisor has made this comment to you, you should discuss the matter with the next higher level of supervision; or, if you prefer, you can take the matter to your affirmative action representative.



ARTIST'S CONCEPT of the EBT-P facility (center, with cutaway showing the location of the fusion device) and its associated administration and mechanical equipment buildings. Construction on the buildings, which will total 50,000 square feet, is scheduled to begin early next year.

If you have questions on company policy, write the Editor, Nuclear Division News (or telephone your question in, either to the editor, or to your plant contact). Space limitations may require some editing, but pertinent subject matter will not be omitted. Your name will not be used, and you will be given a personal answer if you so desire.



# Deaf awareness - employees 'signing' on the job

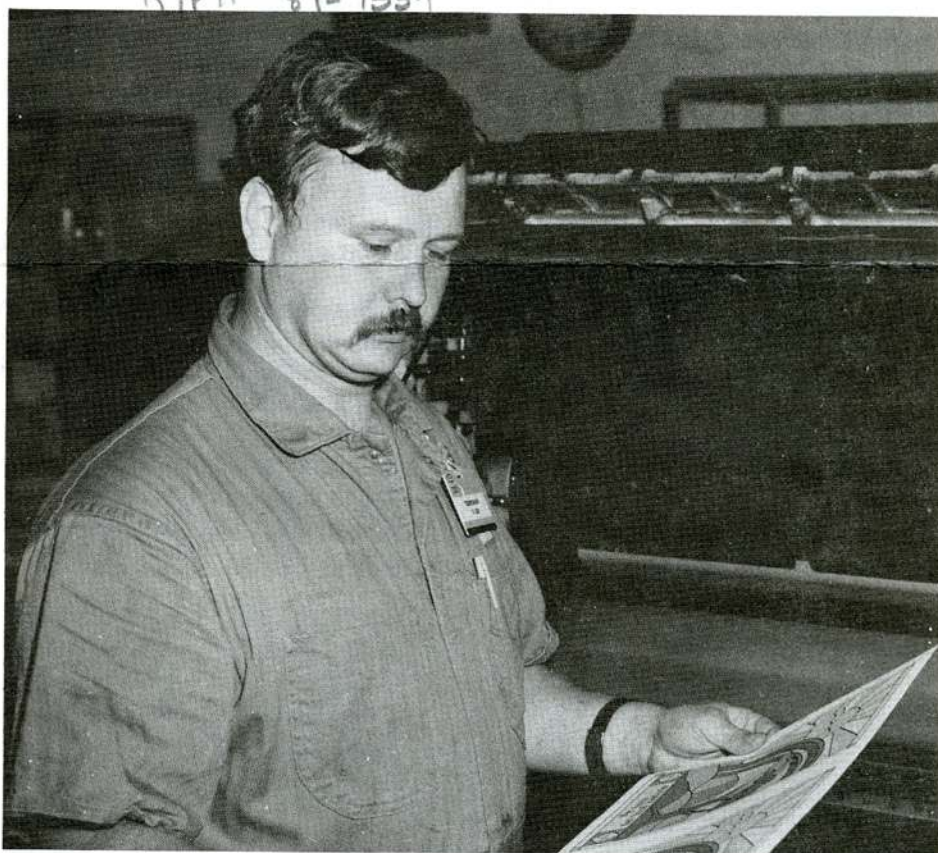
On the surface, at least, the Word Processing Department at ORNL looks like any typical workplace. Yet, looking across cubicles and terminals, you may glimpse employees talking — without words. Scenes like this are apparent throughout the Nuclear Division, with 14 deaf employees working in areas such as ORGDP's Separation Systems and Finance, Materials and Services Divisions, the Environmental Sciences and Information Divisions at ORNL, and the Equipment Services Division at Y-12. These employees hold a variety of jobs including typists, word processors, keypunchers, clerks, laboratory technicians, reproduction clerks and drafting technicians.

Governor Lamar Alexander has proclaimed the week of May 10-16 as Deaf Awareness Week in Tennessee. Here at the Nuclear Division, the emphasis is on effective communication and facilities for the deaf.

Jane L. Patterson, newly named coordinator for the employment of the handicapped, says the main objectives of the week are to "bridge the gap between the hearing and deaf communities, dispel myths and focus on the contributions the deaf make to society."

Activities designed to meet these objectives include a poster display, articles focusing on various aspects of deafness and a television appearance by deaf employees on the Carl Williams Show on Knoxville's Channel 10, May 11. Also, affirmative action coordinators will attend a Deaf Awareness Week employer's meeting, sponsored by the Tennessee Department of Education, Division of Vocational Rehabilitation.

Deafness is only one kind of disability covered by the Nuclear Division's affirmative action program for the handicapped. Any employee who has a handicap or is a Vietnam-era or disabled veteran and would like to be considered under the affirmative action program should notify his or her Employee Relations Division.



Shown clockwise from top right are Douglas Woods, Finance, Materials and Services, ORGDP; Glenda R. Carter, Environmental Sciences, ORNL; Jack Reagan, Equipment Services, Y-12; Nancy Markham, Engineering Technology, ORNL; P. Edward Clayton, Separation Systems, ORGDP.





# Chester R. Richmond assumes additional responsibilities

Chester R. Richmond, associate director for Biomedical and Environmental Sciences, will assume overall responsibility for directing the health, safety and environmental affairs of the Nuclear Division.

Richmond's appointment was announced by Roger F. Hibbs, President of the Nuclear Division, who said that Richmond will continue to serve as an associate director at the Laboratory with responsibilities for biomedical and environmental sciences. Reporting to Richmond will be Robert G. Jordan, who has coordinated health, safety and environmental affairs for the Nuclear Division. Hibbs said that Jordan and his group's activities will continue essentially unchanged.

"This change reflects our sustained commitment to continually build and strengthen the total Nuclear Division capability in health, safety and environmental affairs," Hibbs said. "Basing this functional responsibility within the framework of a research and development organization emphasizes the ever-growing requirement for additional technical input to and support for these important activities," he said.

A native of South Amboy, N. J., Richmond received his bachelor's degree in biology from New Jersey State College and his master's degree in biology and PhD in biology-physiology from the University of New Mexico.

From 1968 to 1971, Richmond was on the staff of the Division of Biology and Medicine of the former



Richmond

U.S. Atomic Energy Commission in Washington, D.C. Prior to his Washington service, and before joining Union Carbide in 1974, he had been associated with the Los Alamos National Laboratory as a staff member, section and group leader, and alternate health division leader.

In 1974, Richmond was named a recipient of the Ernest Orlando Lawrence Memorial Award for "significant contributions to the development, use or control of atomic energy."

Richmond's work on comparing the metabolism of several radionuclides in different animal species has provided an important basis for extrapolating data from animal experiments to human beings and has been essential to the development of radiation protection standards.

He is married to the former Jean Anderson, and the couple has five children. They live at 108 Westwind Drive, Oak Ridge.



Gooch



Hopper



Orick



Vincent

## Y-12 Fabrication Division names machining supervisors

Four machining supervisors have been named in the Y-12 Fabrication Division: John B. Gooch, Kenneth B. Hopper, Billy E. Orick and Taylor R. Vincent.

Gooch, a native of Rockwood, joined Union Carbide in 1954 after working in the Rockwood area and serving in the U.S. Air Force. He and his wife, the former Catherine Bannovra, live at Route 4, Rockwood. They have two sons, Raymond and John.

Hopper was born in Calvert City, Ky., and joined Union Carbide in 1967. He is a graduate of the Training and Technology (TAT) Program in Y-12. He and his wife, the former

Maizine Satterfield, live at 513 Vista Drive, Clinton.

Orick, a native of LaFollette, worked with Chrysler Corporation 14 years before joining Union Carbide in 1979. He served in the U.S. Army from 1963 until 1965. Mrs. Orick is the former Diane Sweet, and they live in the Twin Hills Subdivision at Jacksboro. They have three children, Kelli, Christina and Lindsey.

Vincent, a native of McMinn County, worked at the Athens Tool and Die Company and Ford, Bacon and Davis Construction prior to joining Union Carbide in 1969. He served in the U.S. Army. Mrs. Vincent is the former Connie Borden, and they live at Route 1, Decatur.

## Purchasing names Anderson, DeLozier



Anderson



DeLozier

Vernon A. Anderson and Martin W. DeLozier have been promoted to small business specialists in the Purchasing Division.

Anderson, a Vietnam veteran, is a native of Washington, D.C. He received a BS degree in sociology from Knoxville College and has completed 55 hours toward a master's degree at the University of Tennessee.

Anderson joined the Nuclear Division in 1969 and worked as a time-keeper and materials order clerk prior to his promotion.

He and his wife, Belinda, live at 3304 Wimpole Avenue, Knoxville,

with their sons, Vernon Jr., Timothy and Byron.

DeLozier, a Knoxville native, served in the U.S. Marine Corps. He will complete requirements for his bachelor's degree in secondary education at the University of Tennessee later this year.

In 1976, DeLozier joined the staff at ORGDP, where he worked as chief stores clerk and materials cataloguer.

He resides at 10737 Yarnell Road in Knoxville with his wife, Charlotte, and daughter, Ashley.



"Quality in our products today for assurance of better tomorrows." (Submitted by Nelia M. Yarnell, Y-12.)

## Recent Retirements



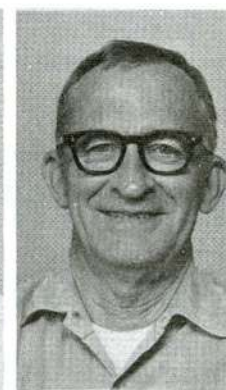
Newt E. Hamby  
Alpha 5 North  
Y-12  
30 years service



Herbert N. Hill  
Instrumentation  
and Controls  
ORNL  
30 years service



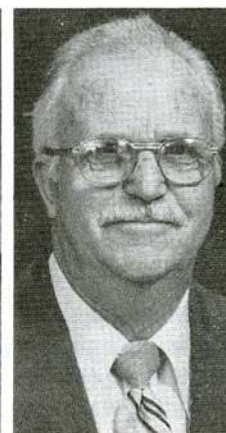
Roy L. Clark  
Industrial Safety and  
Applied Health Physics  
ORNL  
35 years service



James R. Foster  
Plant and Equipment  
ORNL  
35 years service



Herbert G. Linginfelter  
Instrumentation  
and Controls  
ORNL  
32 years service



Tillman B. Phillips  
Stores Department  
Y-12  
30 years service



Horace M. Monday  
General Expediting  
Y-12  
31 years experience



Charles E. Goodman  
Operations Division  
ORGDP  
36 years service



# Golf tournament results...

## ORGDP...

Wallace Hills was the scene of ORGDP golfers' debut for the season, as Waldo Golliher took a 77 to lead the field. G. H. Thompson and Ken Keever tied for second with an 80. Handicap crowns went to R. E. Housley, 82; and Mike Johnson, 83.

Jim Shoemaker's 81 was low in the second division; and Henry McBride followed with an 88. Randy Howell and Bob Orrison were handicap winners with 87 and 90 respectively.

The third division was copped by Mel Whited with a 94; while Jack Owings and Bennie Conley took a 95 each. Roy Munsey's 94 was low in handicap; and Henry Aqurrie followed with 103.

Winners may pick up their bounty in Room 133, K-1001.

## ORNL...

Henry Tuck's 73 was low score at Southwest Point as ORNL duffers opened the new season. He was closely followed by J. Blizzard, with a 75. Handicap honors went to J. W. Jackson, 74; and W. Martin, 79.

In the second division, it was R. Baer with 76; J. Anglin, 81. Handicap lows went to Ed Kobisk, 82; and C. Hunley, 83.

Scoring low in the third flight were R. Lampton, 87; and G. Borshheim and D. Underwood, each with 92. Handicap honors went to T. Kress, 88; and D. McKenrick, 89.

Winners may pick up their golf balls in Room J-108, 4500N.

## Y-12...

Ed Crowder fired a 73 to lead Y-12 golfers at Cedar Hills. Jim George's 74 was a close second. D. G. Lincoln, 78, led handicap teemen, while Randy McClockey, 75; took over second place.

In the number two slot, it was Rick Igou, 77; and Mark Floyd 79. Handicap lows went to Dick Keyland, 80; and Clark Bridgman, 87.

Ralph Vaughn took the third division, scoring 89; followed by J. R. Ownby with 93. In handicap scoring it was Derrick Zingg, 116; and Carl Frazier, 97.

Winners may collect golf balls at the Recreation Office, 9711-5.

## Bowling results

### Classic League...

The Y-12 Classic League went to the Kingpins this year: Virgil Murphy, Larry Hammonds, Don Hunnicut, Bob Crow, Virgil Johnson, Charlie Griffies and Ray Edwards. They defeated the Atta Boys in the roll-off by a good 54 pins.

### UCC Mixed...

The Lickity Splits took the UCC Mixed Bowling League crown for the second year, downing the Split Images in the roll-off. The Lickity Splits consist of Gail Culton, Bonnie and Jerry Cooper, Jim Thompson and Emily Hester.

The UCC Mixed League ties it all together Saturday, May 16, with a lakeside picnic. Trophies and prize money will be awarded then.



## Engineering Division sets picnic at park with western theme, June 6

"COUNTRY WESTERN ROUND-UP" is the theme of Engineering's annual picnic, set Saturday, June 6, 9 to 6 p.m. at Clark Center Recreation Ranch.

This year's chuckwagon will offer a steak sandwich, corn on the cob or potato chips, tossed salad, ice cream or watermelon, and a choice of beverage. A kid's plate will include a hamburger or two hot dogs for the main course. Meals will be served from 12 noon to 6 p.m.

Featured entertainment this year will be three hours of hand-clapping, foot-stomping bluegrass music provided by the Early Morning String Dusters Bluegrass Band. The main event will be a presentation from the Sound of Music by the Oak Ridge

Playhouse, preceded by a puppet show.

Traditional events such as the softball tournament and the Country 5000 Meter Run will get the day off to a fast start. Special challenges will be presented to the courageous by the Greased Pole Climb and the Great Canoe Race. Classic events at the picnic include the Freethrow Shoot-Out, Prairie Dog Hole-in-One, Wild West Frisbee Throw, Three-Legged Race, Egg Toss, and a friendly Tug-O-War.

Special activities for the children include free pony rides, merry-go-round rides, and the Great Plains Art Festival.

Ticket prices are \$2.50 for adults and \$1.50 for children.

## Tee-Off Time Application for

May 30, 1981

(Check Appropriate Plant)

- ☐ ORGDP—Southwest Point
- ☐ Y-12—Dead Horse Lake
- ☐ ORNL—Cedar Hills



Time Preferred

- Leader 1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

COMPLETE AND RETURN TO THE Y-12 RECREATION OFFICE  
Y-12 — BUILDING 9711-5, MS-1

Entries must be received prior to drawing on May 27, 1981.

Tee-off times for all tournaments will be drawn on Wednesdays prior to each Saturday's tournament. Golfers are responsible for reserving their own carts by contacting the pro shop following drawing for tee-off times. Please call the Recreation Department, 4-1597, THURSDAY for tee time.



**STEAMERS CLUTCH CHAMPIONSHIP** — The 1981 Paducah Plant basketball champs, the Steamers, came away from the season with an almost uncontested won-loss record, 8-1. The plant teams play from January through March. Members of the Steamers, seated from left, are Ken Holloway, Jack Logsdon and Michael McKendrick. Standing are Tommy Bobo, Earl Hobbs and Jasper Whittemore. Team members not shown are Al Sevi, Dean Peyton and Jerry Arnzen. All of the team members work in the utilities area of Power, Utilities and Chemicals Division.





## More on health and education

by T. A. Lincoln, M.D.

**QUESTION:** In a recent article you claimed that educated people are healthier. Educated people make more money, probably eat more rich foods, get less exercise, drink more and experience more stress, so they ought to have more heart attacks and ulcers. I don't mean to question you, but could you give some evidence for your claim?

**ANSWER:** In 1973, an extensive study of death rates and education was conducted at Harvard University. Drs. Kitagawa and Hauser used 1960 census and death certificate data as their resources and found that, in general, there was an inverse relationship between mortality and level of education. The lower the level of education, the higher the death rate. The effect persisted past the age of 65 only in white females. It was most noticeable in black females. Those who had only four years of education had a 71 percent higher death rate than those with nine or more years of schooling.

Researchers in the Hypertension Detection and Follow-Up Program found that high blood pressure was inversely related to education, and the effect was seen in both blacks and whites. In another study of men enrolled in the Health Insurance Plan of Greater New York, those with 8 or less years of schooling had a 3.3 times greater risk of sudden cardiac death than the more educated members of the control group.

### Education and obesity

Although it is natural to assume that educated people who have more money would eat and weigh more, that is not the case. In a study in the American Journal of Clinical Nutrition in 1977, women with more than 12 years of education had 19 percent thinner skinfolds than those with 9 years of education. Obesity is common among the poor and those with less education. Part of it may be due to the lower cost of carbohydrate foods, but the lack of incentive to

exert the necessary discipline probably is a more important factor.

Other studies have found fewer cases of emphysema, peptic ulcer, arthritis and psychiatric illnesses in more educated people.

### Reasons are not clear

The reasons for this inverse relationship are not clear. Presumably, the more education people have, the more aware they are of adverse influences on health and how to avoid them. In Great Britain, there was a 50 percent decrease in smoking between 1958 and 1975 in those with the most education, whereas there was little or no change among those with less education.

Better-educated people have more flexibility in their lives, more opportunities to make changes and more money to pay for them. If one is struggling to make ends meet in a grinding, dirty, boring job and then goes home after a one-hour ride on a packed subway to a small, inadequately heated, dirty home and a household of screaming, complaining kids, it is not surprising that personal preventive medicine gets little attention.

### Healthy workers

It should be noted that people who spend a lifetime working for large corporations or the government in clean, efficient plants generally have better health than those who don't work at all or who work intermittently in various small plant or service organizations. The higher standard of living that comes with steady employment generally produces a better health experience.

This evidence strongly suggests that preventive medicine programs need to be directed to people with less education. Although managers and executives sometimes get special medical examinations, they often are not the ones who need them most. It is the men and women who work on the shop floor who need periodic examinations, health education and fitness programs.



**GOOSE WALK** — It would appear that these young goslings are being taken for a walk around the pond by their parents. Although they are beautiful to behold, the Canada geese population at ORGDP has grown so much during the past two years that the birds have become somewhat of a nuisance. In addition to their droppings (which litter buildings, sidewalks, lawns, and people who aren't careful), the geese have been guilty of causing several near-miss car accidents when whole flocks decide to cross the street in rush-hour traffic. To help solve these problems, the Tennessee Wildlife Agency will move some of the geese to other parts of the state later this summer.

## Ryan, St. Onge, Smith named Engineering department heads



Ryan



St. Onge



Smith

The following organizational changes have been announced in the Nuclear Division's Mechanical Engineering Division.

Ted L. Ryan was named department head of the Fusion Technology Engineering Department, responsible for the design of experimental equipment for fusion energy and is principal engineer for the large coil test facility.

A native of Chattanooga, he holds a BS degree in mechanical engineering from the University of Tennessee. Prior to joining Union Carbide in 1976, he was with North American Aviation and Teledyne Brown Engineering. He has been involved in the design of Tokamaks, beam lines for the PDX and cryogenic systems for the large coil program. He has also had the responsibility of magnet systems design. He is a registered engineer in Tennessee and Alabama.

He and his wife, the former Glenda Carlton, live at 10720 Farragut Hills Boulevard, Concord. They have three children, Andrea, Valerie and Gregory.

Carl D. St. Onge has been named head of Machine Design Department in Y-12's Mechanical Engineering. A

native of St. Louis, he has a BS from the University of Missouri at Rolla and an MS from the University of Tennessee. A member of the American Society of Mechanical Engineers, he also belongs to the National Society of Professional Engineers. He is a member of Tau Beta Pi and Pi Tau Sigma, honorary engineering societies. Before joining Union Carbide in 1962, he worked in the family's business and was on active duty in the U.S. Navy.

Mrs. St. Onge is the former Gloria Scism, and they live at 312 Delaware Avenue, Oak Ridge. They have two sons, Keith and Tim.

Thomas E. Smith has been named department head of the Mechanical Technology Engineering Department with the dual responsibility for managing the atomic vapor laser isotope separation program engineering support. A native of Commerce, Ga., he has a BS in mechanical engineering from the University of Tennessee and has done graduate study there in industrial management. He joined Y-12 in 1968 as a design engineer.

He lives at 100 Erskine Lane, Oak Ridge. He has two sons, Greg and Jeff.

## Safety Scoreboard

Time worked without a lost-time accident through April 30:

Y-12 Plant .....	220 Days	7,693,000 Employee-Hours
ORGDP .....	223 Days	6,681,081 Employee-Hours
ORNL .....	354 Days	8,843,409 Employee-Hours
Paducah .....	275 Days	2,538,000 Employee-Hours



## Savings Plan-Personal Investment Account

	Fixed Income Fund	UCC Stock	Equity Investment Fund
December 76	13.0553	59.2723	8.8166
December 77	14.2017	40.9096	8.0427
December 80	18.4490	49.2140	12.9061
January 81	18.5946	53.9691	12.4473
February 81	18.7420	55.2554	12.7318
March 81	18.8894	59.2256	12.9747

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 9.75% for 1981. Union Carbide stock values are the average cost of stock purchased during the month. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. The price of each unit is determined by dividing the total value of the securities by the number of units in the Fund.

## News About People

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Krieg



Patton

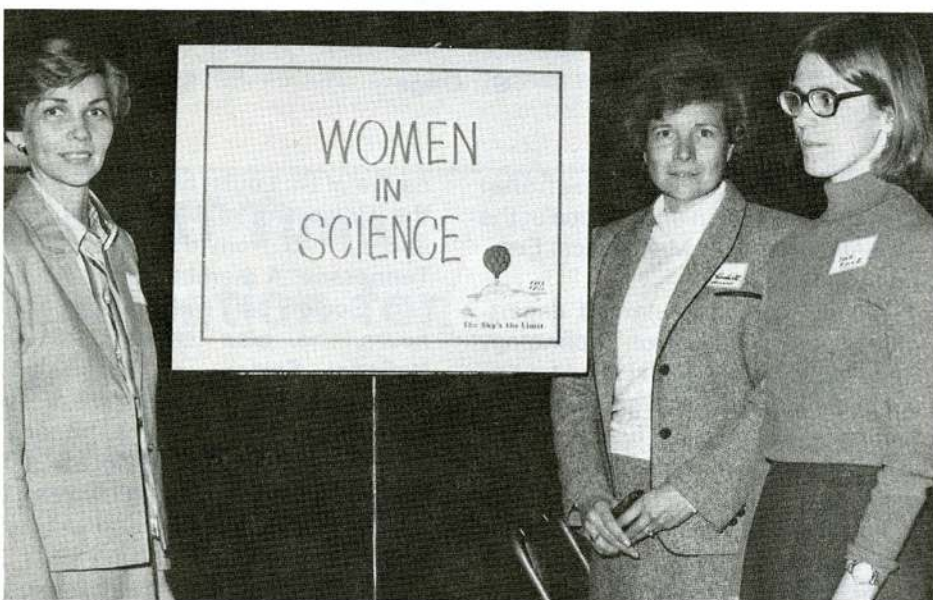


Stickle

## Carbiders join in career fair



**ENGINEERING EXHIBIT** — Sue S. Paulus, left, ORGDP Engineering, and Margaret B. Emmett, ORNL Computer Sciences, were on hand at the fair's "Women in Engineering" booth. Some 120 participants were involved in the event, which featured 20 exhibits on career possibilities in fields such as the arts, education, finance, marketing, communications, home economics, government, health and law.



**WOMEN'S CAREER FAIR** — Among the Nuclear Division participants in the recent Women's Career Fair in Knoxville were, from left, Helen M. Porter, Computer Sciences Division, ORNL; Katherine P. Kendall, Computer Sciences, ORGDP; and Jane E. Pierce, Computer Sciences, ORNL. The fair was sponsored by the Knoxville chapter, American Association of University Women.

Two Nuclear Division staff members were given special honors during the annual WATtec Conference.

Edwin H. Krieg, ORGDP Engineering site manager, received the General Chairman's award "in recognition of outstanding service to WATtec." Finis S. Patton, director of the Engineering Organization, was the first to receive the Public Awareness Symposium's newly established Distinguished Leadership Award.

Krieg, a native of New Jersey, received his BS degree in mechanical engineering from Brown University and a master's degree in engineering economics from Stevens Institute of Technology.

He joined the Nuclear Division at the Y-12 Plant in 1969. Prior to becoming ORGDP Engineering site manager in 1980, he served as deputy manager of the Capacity Expansion Management Team, head of Project Engineering and in several production organizations.

Krieg is president of the Oak Ridge Chapter of the Tennessee Society of Professional Engineers, past president of the United Nations Committee of Oak Ridge and secretary of the Oak Ridge Environmental Quality Assurance Board.

Patton, who has been heavily involved in local and national efforts to get energy information to the public, is a native of Memphis. He received BS and MS degrees in chemical engineering from the University of Mississippi and Louisiana State University, respectively, and

has done further graduate study at the University of Tennessee. He is also registered as a professional engineer in Tennessee.

In 1950, Patton began work as a process design engineer at the Y-12 Plant. He served in various positions at Y-12 and at ORGDP, prior to being named director of Engineering for the three Oak Ridge facilities in July 1980.

Patton served as a U.S. delegate to the 1958 Conference on the Peaceful Uses of Atomic Energy in Geneva, Switzerland. He is a member of the American Chemical Society and the American Institute of Chemical Engineers.

He has been active in affairs of both the Tennessee and National Society of Professional Engineers, and was recipient of TSPE's Outstanding Service Award. He also served as president of the Oak Ridge chapter of the Society.

\* \* \*

Edward T. Stickle, Y-12 Engineering Mechanics, has been named Young Engineer of the Year by the Tennessee Society of Professional Engineers. A registered engineer in the state of Tennessee, Stickle has a BS degree from Northwestern University and an MS from the University of Tennessee. An active member of TSPE, he also was instrumental in founding a local chapter of the American Vacuum Society. He has been active also in the WATtec programs, serving as this year's program chairman. Stickle joined Union Carbide in 1968.



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## Save Energy / Share the Ride

### ORGDP

ONE CAR POOL member from Faragut section to Portal 2, 7:45-4:15 shift. Patrick Mountain, plant phone 4-8392, home phone Knoxville 966-3487.

BUS RIDERS from West Knoxville to Portals 1, 2 and 4, 8-4:30 shift.

Steve Buffalo, plant phone 6-7314, home phone Knoxville 690-5610.

### ORNL

RIDE NEEDED from Oak Ridge Highway between Karns and Solway to East Portal, 8:15-4:45. Peterson, plant phone 4-4483; home phone 690-3989.